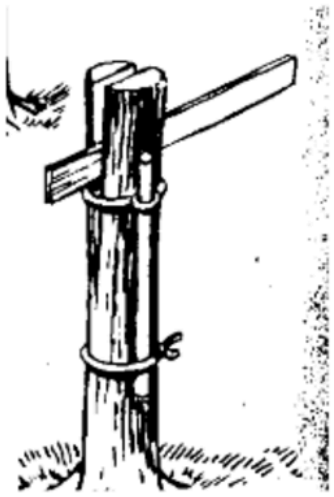
How to Make a Bushcraft Stump Vise (and a very strong Pole Lashing) using a Tourniquet Knot



Stump Vise: A green sapling can be cut off at a convenient height, then split down the middle, to form an improvised stump vise. Wedge the piece to be worked into the split, and then tighten the stump by using a tourniquet, as shown.

This is one of the fastest, strongest, fully reversible field vises you can make with nothing more than a knife, some cordage, and a stump or log. It will easily clamp a bow-drill bearing block, a piece of wood you're carving, or even hold a green stick for splitting. The tourniquet knot gives you mechanical advantage and enormous clamping pressure with very little effort.

Materials

- One short log or stump (30–60 cm tall works best)
- One straight, strong stick about 50–80 cm long (your "lever bar")
- 3–5 metres of strong cordage (paracord, bank line, natural fibre rope, or even a bootlace in a pinch)

Step-by-Step Instructions

Cut or find a stump with a flat-ish top.

1. The top does NOT need to be perfectly level.

Drill or burn/baton two holes straight down through the top of the stump, about 8–12 cm apart (the distance between the two jaws of your future vise).

2. If you have no auger, simply split the top of the stump with an axe or knife and wedge it open enough to accept your workpiece later.
3. Pass your rope completely through both holes so you have two long ends coming up on the same side of the stump (the working side).
4. Lay your workpiece (the thing you want to clamp) on top of the stump between the two holes.
5. Place the lever bar (the strong stick) on top of the workpiece, centered between the two rope ends.
6. Make the tourniquet exactly the same way Georges Cuvillier does for bamboo:
    - Bring the two rope ends up and over the lever bar.
    - Cross them once to form two loops that encircle the bar and the workpiece.
    - Pull the loops snug so the bar is pressing down on the workpiece.
    - Twist the two free ends together like a tourniquet (exactly like tightening a bandage on an arm). Each full twist dramatically increases the clamping force.
    - Keep twisting until the workpiece is locked solid. You'll be amazed how tight it gets after only 4–6 twists.

Lock it off:

7. When it's tight enough, bring the two twisted ends around the lever bar one more time and tie them off with a quick overhand knot or two half-hitches. This prevents the tourniquet from untwisting.

You now have a rock-solid vise that will not move, even under heavy carving or drilling pressure.

To release

Untie the locking knot, untwist a few turns, and the whole thing pops loose in seconds. Nothing is damaged; you can reuse the same setup hundreds of times.

Video of the exact knot in action (bushcraft version)

Here's a clear 60-second demonstration using the identical tourniquet principle on a stump vise:

https://www.youtube.com/watch?v=zvO8e0R5L0c (David Canterbury / The Pathfinder School)

The knot is identical to Cuvillier's bamboo joint — only the scale is smaller.

This is probably the single most useful field-expedient vise you will ever learn. Once you've made one, you'll start putting tourniquet stump vises in every camp you set up!

Georges Cuvillier's Bamboo Joint

Georges Cuvillier is a Belgian sculptor, climber, and cellist renowned for his large-scale bamboo installations that emphasize rhythm, fluid movement, and organic shapes. He sources bamboo primarily from regions like Hangzhou, South China, and has collaborated on projects worldwide, including bridges and bowers at festivals such as Woodford Folk Festival and Swell Sculpture Festival in Australia. His work often involves rigging and climbing bamboo poles up to 11-12 meters long to create dynamic structures.

The Bamboo Joint Technique: Tourniquet Method

Cuvillier's signature "bamboo joint" (also called the tourniquet method) is a simple, reversible rope-based connection for joining two bamboo poles at an angle. This technique allows for quick assembly and disassembly without damaging the bamboo, making it ideal for temporary installations and reusable projects. It's strong enough to support significant loads—tested up to 1 tonne in some applications, far exceeding typical requirements.

The method draws its name from the twisting action of a tourniquet, creating tension through loops and knots. It's been taught to other artists and builders, such as the Australian collective Cave Urban, who used it in their 18m-high, 60m-long "Harvest" installation for the Brisbane Festival in 2016 (or similar years), comprising 1,000 bamboo poles harvested from Queensland plantations.

Step-by-Step Demonstration

Based on Cuvillier's own demonstration in a 2013 video (filmed at a festival site using bamboo from Earthcare suppliers), here's how the joint is made. The process relies on natural rope (e.g., jute or sisal) and focuses on precise positioning for strength:

1. **Prepare the Poles and Rope**: Select two bamboo poles of similar diameter. Overlap their ends at the desired angle (e.g., for a bridge or arch). Use a length of rope about 2-3 times the circumference of the poles.
2. **Create Initial Loops**: Wrap the rope around both poles to form two loose loops—one around each pole, crossing at the joint point. Ensure the overlap is secure but not tight yet. The "nut" (thickest part of the bamboo node) should ideally be centered in the middle of the joint for maximum strength, as the node resists compression better than smooth sections.
3. **Adjust Distance and Tension**: Pull the loops to set the correct overlap distance (typically 20-30 cm for stability). Open the loops slightly if needed, slide the rope's midpoint (the "nut" in the rope setup) to align it centrally, and reposition the poles. Feel for even tension—avoid any cracking sounds, which indicate over-stressing the bamboo.
4. **Twist into Tourniquet**: Bring the two loose ends of the rope together and twist them tightly (like tightening a tourniquet) while pulling the loops toward each other. This cinches the poles firmly. Maintain steady pressure to build tension without snapping fibers.
5. **Secure with Final Loop**: Once taut, wrap the twisted ends around the joint once more to form a locking loop. Tuck or knot the ends to prevent slippage. The result is a snug, angled connection that distributes load evenly.

This method takes under a minute per joint with practice and requires no tools beyond the rope. It's eco-friendly, as it preserves the bamboo for reuse.

Video Demonstration

For a visual guide, watch Cuvillier's hands-on demo: Georges Cuvillier's Bamboo Joint on YouTube. In the 1-minute clip, he narrates in accented English while building the joint on-site, emphasizing the "beautiful" simplicity and the importance of tension over force.

Applications and Strength

- **Installations**: Used in wave-like walls, bridges, and sculptures, as seen in Cuvillier's portfolio.
- **Load Testing**: In the Cave Urban project, the joints withstood 1 tonne—four times the needed capacity—certified by engineers.
- **Advantages**: Reversible (untie in seconds), lightweight, and scalable for massive structures.

If you're building with bamboo, start with dry, straight poles (e.g., Dendrocalamus asper variety) and weather-resistant rope. For more details, visit Cuvillier's site: georgescuvillier.be.